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FIRST NAMED INVENTOR ATTORNEY DOCKET NO. CONFIRMATION NO. APPLICATION NO. FILING DATE 10/750,190 12/30/2003 Carlos J. Gonzalez SNDK.334US0 9150 **EXAMINER** 7590 06/30/2006 PARSONS HSUE & DE RUNTZ, LLP LI, ZHUO H **Suite 1800** ART UNIT PAPER NUMBER 655 Montgomery Street

> 2185 DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)	
Office Action Summary		10/750,190	GONZALEZ ET AL.	
		Examiner	Art Unit	
		Zhuo H. Li	2185	
The MAILING DATE Period for Reply	of this communication app	pears on the cover sheet with the c	correspondence ad	ddress
A SHORTENED STATUT WHICHEVER IS LONGER - Extensions of time may be availat after SIX (6) MONTHS from the m - If NO period for reply is specified a - Failure to reply within the set or ex	R, FROM THE MAILING Date under the provisions of 37 CFR 1.1 ailing date of this communication. above, the maximum statutory period attended period for reply will, by statute ther than three months after the mailing	Y IS SET TO EXPIRE 1 MONTH(ATE OF THIS COMMUNICATION 36(a). In no event, however, may a reply be tinwill apply and will expire SIX (6) MONTHS from a cause the application to become ABANDONE and the description of the communication, even if timely filed.	N. nely filed the mailing date of this c D (35 U.S.C. § 133).	
Status				
1) Responsive to com	nunication(s) filed on <u>30 D</u>	ecember 2003.		
2a) ☐ This action is FINAL	•			
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is				
closed in accordance	e with the practice under E	Ex parte Quayle, 1935 C.D. 11, 45	53 O.G. 213.	
Disposition of Claims				
4a) Of the above cla 5) Claim(s) is/a 6) Claim(s) is/a 7) Claim(s) is/a	re rejected.	wn from consideration.		
Application Papers				
10) The drawing(s) filed Applicant may not req Replacement drawing	uest that any objection to the sheet(s) including the correct	er.  epted or b) objected to by the lead or b) objected to by the lead or b) objected to by the lead of the lead o	e 37 CFR 1.85(a). jected to. See 37 C	
Priority under 35 U.S.C. § 11	19			
<ul> <li>12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).</li> <li>a) All b) Some * c) None of:</li> <li>1. Certified copies of the priority documents have been received.</li> <li>2. Certified copies of the priority documents have been received in Application No.</li> <li>3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).</li> <li>* See the attached detailed Office action for a list of the certified copies not received.</li> </ul>				
Attachment(s)  1) \( \sum_{\text{Notice}} \text{Notice of References Cited (P^2)} \)		4) Interview Summary		
<ol> <li>Notice of Draftsperson's Paten</li> <li>Information Disclosure Statem</li> <li>Paper No(s)/Mail Date</li> </ol>	t Drawing Review (PTO-948) ent(s) (PTO-1449 or PTO/SB/08)	Paper No(s)/Mail Do 5) Notice of Informal F 6) Other:		O-152)

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## **DETAILED ACTION**

## Election/Restrictions

- 1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-5, and 13, drawn to a structure of a non-volatile memory system comprising an array of non-volatile memory cells with different interleaving arrangements, classified in class 711, subclass 157.
  - II. Claims 6-7, drawn to a method of operating a non-volatile memory for programming into the memory a specified number of units data less than a total data storage capacity of one block in each of the plurality of sub-arrays and having sequential logical address, and the specified number of units of data being programmed relative to the total data storage capacity of one block in each of the sub-arrays, classified in class 711, subclass 172.
  - III. Claims 8-12, drawn to method of operating a non-volatile memory for data being written and read with each of at least a first and second degrees of parallelism in response to at least one characteristic of the received write request, classified in class 711, subclass 168.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I, II and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the

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instant case, invention I has separate utility such as a structure of a non-volatile memory system comprising an array of non-volatile memory cells with different interleaving arrangements, invention II has a separate utility such as to programming into the memory a specified number of units data less than a total data storage capacity of one block in each of the plurality of sub-arrays and having sequential logical address, and the specified number of units of data being programmed relative to the total data storage capacity of one block in each of the sub-arrays, and invention III has a separate utility such as to write and read data with each of at least a first and second degrees of parallelism in response to at least one characteristic of the received write request. See MPEP § 806.05(d).

- 3. Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.
- 4. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143).
- 5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

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application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zhuo H. Li whose telephone number is 571-272-4183. The examiner can normally be reached on Tues - Fri 9:00am - 6:30pm and alternate Monday..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Zhuo H. Li

Patent Examiner June 21, 2006

SUPERVISORY PATENT EXAMINER
TECHNOLOGY OFFITT 2:00